Amendments to the Claims

Please make the following amendments to the Claims:

1.   (Currently amended) An apparatus for predicting when maintenance is required for a scanner, the apparatus comprising:

a tracking module in a scanner, the tracking module configured to track a quality parameter history;

a prediction module in the scanner, the prediction module configured to predict when maintenance is required based on the quality parameter history, wherein the prediction module is further configured to use a quality parameter history variable and a quality parameter time variable to determine a quality parameter trend and extrapolate the trend to determine when the quality parameter trend will cross a quality parameter limit; and

a notification module in the scanner, the notification module configured to notify a user when maintenance is predicted to be required based on a the quality parameter trend.

2.   (Original) The apparatus of claim 1, wherein the tracking module further comprises a time tracking module configured to record a quality parameter history variable and a quality parameter time variable after a specified period of time.

3.   (Original) The apparatus of claim 1, wherein the tracking module further comprises a number tracking module configured to record a quality parameter history variable and a quality parameter time variable after a specified number of images have been scanned.

4.   (Original) The apparatus of claim 1, wherein the tracking module further comprises an adjustment tracking module configured to modify a quality parameter history variable by an amount that a quality parameter change variable is different than a quality parameter threshold and to record a quality parameter time variable when the quality parameter change variable is modified.

5.   (Currently amended) The apparatus of claim 1, wherein the prediction module is further configured to use[[a]] the quality parameter history variable and[[a]] the quality parameter time variable in a quality parameter function to determine[[a]] the quality parameter trend and extrapolate the trend to determine:
          when the quality parameter trend will cross a quality parameter notification limit;

          when the quality parameter trend will cross a quality parameter change limit; and

          the[[time]] difference between when the quality parameter trend crosses the quality

      parameter notification limit and the quality parameter change limit.

6.   (Original)   The apparatus of claim 5, wherein the quality parameter function comprises a quality parameter straight-line approximation function configured to determine a straight-line approximation of the quality parameter trend.

7.   (Original)   The apparatus of claim 5 wherein the quality parameter function comprises a quality parameter first order curve fitting approximation function configured to determine a curved-line approximation of the quality parameter trend.

8.   (Original)   The apparatus of claim 1, wherein the notification module is further configured to send a notification signal when a quality parameter trend crosses a quality parameter

notification limit, the notification signal comprising an estimated time difference between when the quality parameter trend crosses the quality parameter notification limit and when the quality parameter trend crosses a quality parameter change limit.

9.   (Original) The apparatus of claim 1, wherein the quality parameter is selected from a group consisting of an average brightness, a maximum brightness, a video gradient, and a contrast.

10.   (Currently Amended) A system for predicting maintenance for a scanner, the system comprising:

a computer network;

a scanner connected to theconfigured to connect to a computer network and configured to scan images and convert the scanned image to a digital format each pixel of the scanned image corresponding to an element in a scanned image matrix;

a server configured to control the computer network;

a computer connected to the computer network, the computer configured to communicate with the scanner;

a tracking module configured to track a quality parameter history;

a prediction module configured to predict when maintenance is required based on quality parameter changes;

the prediction module is further configured to use a quality parameter history variable and a quality parameter time variable in a quality parameter function to determine a quality parameter trend and extrapolate the trend to determine:

when the quality parameter trend will cross a quality parameter notification

limit;

when the trend quality parameter trend will cross a quality parameter change

limit; and

the time difference between when the quality parameter trend will cross the

quality parameter notification limit and the quality parameter change limit;

a notification module configured to notify a user when maintenance is predicted to be

required based quality parameter changes; and

the notification module is further configured to send a notification signal when a quality

parameter trend crosses a quality parameter notification limit, the notification signal comprising

an estimated time difference between when the quality parameter trend crosses the quality

parameter notification limit and when the quality parameter trend crosses a quality parameter

change limit.

11.   (Original) The apparatus of claim 10, wherein the quality parameter is selected from

a group consisting of an average brightness, a maximum brightness, a video gradient, and a contrast.

12.   (Currently amended) A process for predicting when maintenance is required for a

scanner, the process comprising:

tracking in a scanner a quality parameter history in a scanner;

predicting when maintenance is required in the scanner based on the quality parameter

history, wherein predicting when maintenance is required further comprises using a quality

parameter history variable and a quality parameter time variable to determine a quality

parameter trend and extrapolate the trend to determine when the quality parameter trend will

cross a quality parameter limit; and

notifying a user when maintenance is predicted to be required in the scanner based on[[a]] the quality parameter trend.

13.   (Original)   The process of claim 12, wherein tracking a quality adjustment history further comprises recording a quality parameter history variable and a quality parameter time variable after a specified period of time.

14.   (Original)   The process of claim 12, wherein tracking a quality adjustment history further comprises recording a quality parameter history variable and a quality parameter time variable after a specified number of images have been scanned.

15.   (Original)   The process of claim 12, wherein tracking a quality adjustment history further comprises modifying a quality parameter history variable by an amount that a quality parameter change variable is different than a quality parameter threshold and to record a quality parameter time variable when the quality parameter change variable is modified.

16.   (Currently amended) The process of claim 12, wherein predicting when maintenance is required further comprises using[[a]] the quality parameter history variable and[[a]] the quality parameter time variable in a quality parameter function to determine[[a]] the quality parameter trend and extrapolate the trend to determine:
when the quality parameter trend will cross a[[n]] quality parameter notification limit;

when the quality parameter trend will cross a quality parameter change limit; and

the[[time]] difference between when the quality parameter trend will cross the quality

parameter notification limit and the quality parameter change limit.

17.   (Original)   The process of claim 16, wherein the quality parameter function comprises a quality parameter straight-line approximation function configured to determine a straight-line approximation of the quality parameter trend.

18.   (Original)   The process of claim 16, wherein the quality parameter function comprises a quality parameter first order curve fitting approximation function configured to determine a curved-line approximation of the quality parameter trend.

19.   (Original)   The process of claim 12, wherein notifying a user when maintenance is predicted to be required further comprises sending a notification signal when a quality parameter trend crosses a quality parameter notification limit, the notification signal comprising an estimated time difference between when the quality parameter trend crosses the quality parameter notification limit and when the quality parameter trend crosses a quality parameter change limit.

20.   (Original)   The process of claim 12, wherein the quality parameter is selected from a group consisting of an average brightness, a maximum brightness, a video gradient, and a contrast.

21.   (Currently Amended)   A process for predicting maintenance for a scanner, the process comprising:
          tracking in a scanner a quality parameter history;

using within the scanner a quality parameter history variable and a quality parameter

time variable in a quality parameter function to determine a quality parameter trend and

extrapolate the trend to determine:

        when the quality parameter trend will cross a quality parameter

        notification limit;

        when the quality parameter trend will cross a quality parameter change

        limit; and

        the time difference between when the quality parameter trend will cross

        the quality parameter notification limit and the quality parameter change

        limit; and

sending from the scanner a notification signal when a quality parameter trend crosses a

quality parameter notification limit, the notification signal comprising an estimated time

difference between when the quality parameter trend crosses the quality parameter

notification limit and when the quality parameter trend crosses a quality parameter change

limit.

22.   (Original) The process of claim 21, wherein quality parameter is selected from the

group consisting of average brightness, maximum brightness, video gradient, and contrast.

23.   (Currently amended) A computer readable storage medium encoded with instructions

capable of being executed by a computer, the instructions comprising computer readable code

configured to carry out a process for predicting when maintenance is required for a scanner, the process comprising:

tracking in a scanner a quality parameter history;

predicting when maintenance is required in the scanner based on the quality parameter history; and

notifying a user when maintenance is predicted to be required in the scanner based on a quality parameter trend, wherein notifying a user when maintenance is predicted to be required further comprises sending a notification signal when a quality parameter trend crosses a quality parameter notification limit, the notification signal comprising an estimated time difference between when the quality parameter trend crosses the quality parameter notification limit and when the quality parameter trend crosses a quality parameter change limit.

24.   (Currently amended) An apparatus for predicting maintenance in a scanner, the apparatus comprising:

[[means for]]a tracking module of a scanner configured to track[[ing]] a quality parameter history of the scanner;

[[means for]]a prediction module of the scanner configured to predict[[ing]] when maintenance is required in the scanner based on the quality parameter history; and

[[means for]] a notification module of the scanner configured to notify[[ing]] a user when maintenance is predicted to be required in the scanner based on a quality parameter trend, wherein the notification module is further configured to send a notification signal

when a quality parameter trend crosses a quality parameter notification limit, the notification signal comprising an estimated time difference between when the quality parameter trend crosses the quality parameter notification limit and when the quality parameter trend crosses a quality parameter change limit.